

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C.20231
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 18 May 2000 (18.05.00)	Applicant's or agent's file reference 34415/194699
International application No. PCT/US99/21333	Priority date (day/month/year) 16 September 1998 (16.09.98)
International filing date (day/month/year) 16 September 1999 (16.09.99)	
Applicant ALESSI, George, H. et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 28 March 2000 (28.03.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

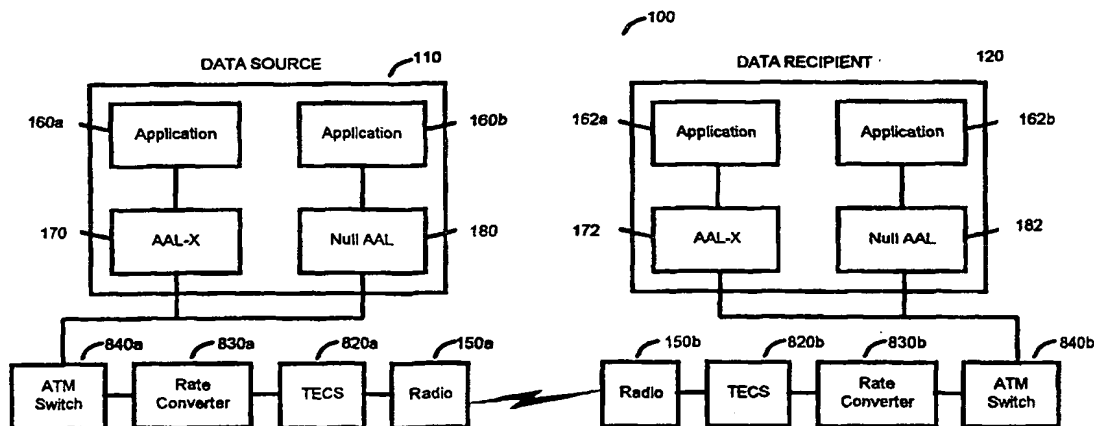
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer C. Villet Telephone No.: (41-22) 338.83.38
--	--



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04J 3/16, 3/22, 3/24		A1	(11) International Publication Number: WO 00/16511
			(43) International Publication Date: 23 March 2000 (23:03.00)
(21) International Application Number: PCT/US99/21333 (22) International Filing Date: 16 September 1999 (16.09.99) (30) Priority Data: 60/100,618 16 September 1998 (16.09.98) US (71) Applicant (for all designated States except US): SCIENTIFIC RESEARCH CORPORATION [US/US]; Suite 400 South, 2300 Windy Ridge Parkway, Atlanta, GA 30339 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): ALESSI, George, H. [US/US]; 230 Lochland Circle, Roswell, GA 30075 (US). RAY, Charles, G. [US/US]; 413 Eagle Ridge Trail, Canton, GA 30114 (US). AKYILDIZ, Ian [US/US]; 525 St. Regis Drive, Alpharetta, GA 30022 (US). JENSEN, Mark [US/US]; 5858 Bridgemont Place, Acworth, GA 30101 (US). SMITH, Guy [US/US]; 880 Windsor Trail, Roswell, GA 30076 (US). (74) Agents: PRATT, John, S. et al.; Kilpatrick Stockton LLP, Suite 2800, 1100 Peachtree Street, Atlanta, GA 30309-4530 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.	

(54) Title: SYSTEMS AND METHODS FOR ASYNCHRONOUS TRANSFER MODE AND INTERNET PROTOCOL



(57) Abstract

A protocol-independent error-control system includes several components (840a, 830a, 820a, 150b, 820b, 830b, 840b) that assist in providing more reliable data transmission between endpoints (110, 120): 1) an ATM adaptation layer that supports quality-critical and time-critical data; 2) a rate converter that uses a priority scheme to adjust the data rate for different types of data; and 3) an error-control subsystem that implements a data link protocol optimized for error-prone links, and capable of recognizing traffic from many kinds of network sources. The error-control subsystem may be used alone or in combination with the ATM adaptation layer (170, 172, 180, 182) and/or the rate converter (830).

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99-21333

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : H04J 3/16, 3/22, 3/24

US CL : 370/466, 468, 473, 474, 395; 714/746, 748, 749, 750

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 370/466, 468, 473, 474, 395; 714/746, 748, 749, 750

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
rate converter, atm layers, arq, error, encoder, aal, crc, tag, qos

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 5,844,897 A (ASAMIZUYA) 01 December 1998, see entire document.	1-39
Y,E	US 5,956,344 A (COLE) 21 September 1999, col.3, line 8 to col.7, line 67.	1-39
Y,P	US 5,917,828 (THOMPSON) 29 June 1999, col.3, line 65 to col.9, line 67.	1-39

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*G* document member of the same patent family
U document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

16 NOVEMBER 1999

Date of mailing of the international search report

27 DEC 1999

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

PHUONGCHAU BA NGUYEN

Telephone No. (703) 305-4703